

इंटरनेट

मानक

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IS 4592 (2002): Acceptance Conditions of Open Front Mechanical Power Presses - Testing of Accuracy [PGD 4: Metal Forming Machines]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
ओपन फ्रंट अभियांत्रिक पावर प्रेसों की स्वीकार्यता
शर्तें — परिशुद्धता का परीक्षण
(पहला पुनरीक्षण)

Indian Standard
ACCEPTANCE CONDITIONS OF OPEN FRONT
MECHANICAL POWER PRESSES — TESTING
OF ACCURACY
(*First Revision*)

ICS 25.120.10

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NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 6899 : 1984 'Acceptance conditions of open front mechanical power presses — Testing of the accuracy' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Metal Forming Machines Sectional Committee and approval of the Basic and Production Engineering Division Council.

This standard was first published in 1968. This revision has been taken up to align this standard with ISO 6899 : 1984.

The text of the ISO Standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker in the International Standard while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO/R 230 ¹⁾ Machine tool test code	IS 2063 (Part 1) : 2002 Test code for machine tools — Part 1 Geometric accuracy of machines operating under no-load or finishing conditions (<i>second revision</i>)	Technically equivalent
ISO 6898 : 1984 Open front mechanical power presses — Capacity ratings and dimensions	IS 8711 : 2002 Capacity and dimensions for gap frame open-back presses (<i>first revision</i>)	do

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

¹⁾ This standard is revised and brought out in different parts. The requirement of ISO/R-230 is covered in IS 2063 (Part 1) : 2002 which is identical with ISO 230-1 : 1996.

Indian Standard

**ACCEPTANCE CONDITIONS OF OPEN FRONT
MECHANICAL POWER PRESSES — TESTING
OF ACCURACY**

(First Revision)

1 Scope and field of application

This International Standard specifies, with reference to ISO/R 230, geometrical tests for open front mechanical power presses and gives the corresponding permissible tolerances.

This International Standard is applicable to machines of general purpose use and normal accuracy up to 2 500 kN capacity which is the biggest press standardized in ISO 6898.

This International Standard deals only with the checking of accuracy of the machine. It does not apply to the testing of the running of the machine (vibrations, abnormal noises, stick-slip motion of components, etc.) nor to its characteristics (speeds, feeds, deflection under load, etc.) which should generally be checked before testing accuracy.

2 Preliminary observations

2.1 In applying the tests detailed in tables 1 and 2, reference should be made to ISO/R 230, especially concerning the installation of the machine before testing, warming up of moving parts, the description of measuring methods and the recommended accuracy of testing equipment.

2.2 The tests may be applied in any order that is practicable and that makes for ease of mounting of instruments or gauging. The sequence in which the geometrical tests are given

is related to the sub-assemblies of the machine; it is not intended to impose the practical order in which the tests are to be carried out.

2.3 It is not always necessary for all the tests specified in this International Standard to be carried out. The purchaser shall be at liberty to select, in agreement with the manufacturer, those tests relating to the properties that are of interest to him. The appropriate tests shall be clearly stated when the machine is ordered however.

2.4 Prior to testing it is necessary to establish that the press under test is levelled correctly, that the slide balance, if fitted, is set in accordance with the manufacturer's instructions, and that the testing equipment is accurate.

2.5 When establishing the tolerance for a measuring range different from that given in this International Standard (see 2.311 of ISO/R 230) it should be taken into consideration that the minimum value of tolerance is 0,01 mm.

3 References

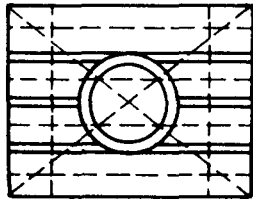
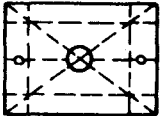
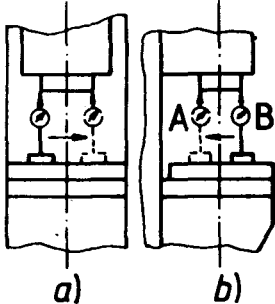
ISO/R 230, *Machine tool test code*.

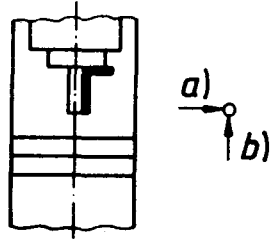
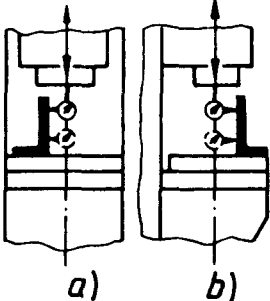
ISO 6898, *Open front mechanical power presses — Capacity ratings and dimensions*.

NOTE — A future International Standard will cover terminology of open front mechanical power presses.

4 Test conditions and permissible tolerances

Dimensions are expressed in millimetres, and capacity ratings in kilonewtons.

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references to the ISO/R 230 test code
G 1		Flatness of the bedplate surface, longitudinally, transversely and diagonally	0,01 per measured length of 100	Straightedge and gauge blocks	Clauses 5.3, 5.31 and 5.322 If it is intended that the press be used without a bedplate, then the same test shall be carried out on the bed.
G 2		Flatness of the slide surface, longitudinally, transversely and diagonally	0,01 per measured length of 100	Straightedge and gauge blocks	Clauses 5.3, 5.31 and 5.322
G 3		Parallelism of the slide surface to the bedplate surface : a) left to right b) front to back	Capacity < 630 a) 0,015 per measured length of 100 b) 0,020 per measured length of 100 630 < Capacity < 2 500 a) 0,020 per measured length of 100 b) 0,030 per measured length of 100	Dial gauge	Clauses 5.41, 5.412.2 Slide at bottom of maximum stroke, adjustment up. In direction b) the gap between the slide surface and bedplate surface shall not be less at point A than at point B. If it is intended that the press be used without a bedplate, then the same test shall be carried out on the bed.

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references to the ISO/R 230 test code
G 4		<p>Squareness of the stem hole to slide surface :</p> <p><i>a)</i> left to right <i>b)</i> front to back</p>	<p>For <i>a)</i> and <i>b)</i> : 0,05/100 Length of mandrel</p>	Square, feeler gauges and test mandrel	
G 5		<p>Squareness of slide movement to bedplate :</p> <p><i>a)</i> left to right <i>b)</i> front to back</p>	<p>Capacity < 630 for <i>a)</i> and <i>b)</i> : 0,03/100</p> <p>630 < capacity < 2 500 for <i>a)</i> and <i>b)</i> : 0,04/100</p>	Square and dial gauge	<p>Clause 5.522.2</p> <p>If it is intended that the press be used without a bedplate, then the same test shall be carried out on the bed.</p> <p>In direction <i>b)</i> the dial indicator reading at the top of the stroke can be less than that at the bottom of the stroke.</p>

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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